# **EXAMINATION REQUIREMENTS**

**FOR** 

# FIRE SUPPRESSION SYSTEM CERTIFICATION



AS PRESCRIBED BY

THE STATE FIRE PREVENTION COMMISSION

ON JANUARY 15, 1993

IN ACCORDANCE WITH

THE STATE FIRE PREVENTION REGULATIONS

PART III, CHAPTERS 5 AND 7

# EXAMINATION REQUIREMENTS FOR FIRE SUPPRESSION SYSTEM CERTIFICATION

# **TABLE OF CONTENTS**

<u>Subject                                    </u>	Įе
Table 1 – Classification of FSS Certificates	
Table 2 – Exam Requirements for FSS Certification4	
Class I Fire Suppression System Certificate5	
Class II Fire Suppression System Certificate7	
Class IIIa Fire Suppression System Certificate9	
Class IIIb Fire Suppression System Certificate11	
Class IIIc Fire Suppression System Certificate13	
Class IIId Fire Suppression System Certificate15	
Class IV Fire Suppression System Certificate17	
Class V Fire Suppression System Certificate17	
Class VI Fire Suppression System Certificate18	
Class VIII Fire Suppression System Certificate20	
Selected General References22	

Dates of publication for previous editions:

August 15, 1989 June 19, 1990

To receive additional copies of this pamphlet, contact the

State Fire Marshal's Office 1537 Chestnut Grove Road Dover, DE 19904-9610

(302) 739-4394

# Classification of Fire Suppression System Certificate As per the State Fire Prevention Regulations Part III, Chapters 5 and 7

Class	Type of work that may be performed
I	All types of fire suppression systems under Classes II, III, and IV.
II	Sprinkler and Standpipe Systems.
IIIa	Engineered CO2 fire suppression systems.
IIIb	Engineered clean agent fire suppression systems.
IIIc	Engineered foam fire suppression systems.
IIId	Engineered dry chemical fire suppression systems.
IV	Residential fire suppression systems (Typical of NFPA 13D systems)
Va	Pre-engineered CO2 fire suppression systems only.
Vb	Pre-engineered Halon fire suppression systems only.
Vc	Pre-engineered foam fire suppression systems only.
Vd	Pre-engineered dry chemical fire suppression systems only.
Ve	Pre-engineered wet chemical fire suppresion systems only.
VI	Inspection, Testing and Maintenance, ONLY, of all Systems.
VIII	Inspection, Testing and Maintenance of In-House Licensed Systems, ONLY.

# Examination Requirements for Fire Suppression System Certification As per the State Fire Prevention Regulations Part III, Chapters 5 and 7

# Table 2

0 1 01	
Cert. Class	
	Examination Requirements
I	Successfully complete "SFPR Exam"
	Successfully complete "Class IV Certification Exam"
	Successfully complete "Class II Certification Exam"
	Successfully complete "Class IIIa, IIIb, IIIc and IIId Certification Exams"
	(See Notes 1 and 2 on Page 5)
II	Successfully complete "SFPR Exam"
	Successfully complete "Class II Certification Exam"
	(See Note 1 on Page 7)
IIIa	Successfully complete "SFPR Exam"
	Successfully complete "Class IIIa Certification Exam"
	(See Note 2 on Page 9)
IIIb	Successfully complete "SFPR Exam"
	Successfully complete "Class IIIb Certification Exam"
	(See Note 2 on Page 11)
IIIc	Successfully complete "SFPR Exam"
	Successfully complete "Class IIIc Certification Exam"
	(See Note 2 on Page 13)
IIId	Successfully complete "SFPR Exam"
	Successfully complete "Class IIId Certification Exam"
	(See Note 2 on Page 15)
IV	Successfully complete "SFPR Exam"
	Successfully complete "Class IV Certification Exam"
Va-Ve	Successfully complete "SFPR Exam"
	Provide proper Manufacturers Certification
VI	Successfully complete "SFPR Exam"
	Successfully complete "Class IV Certification Exam"
	Successfully complete "Class II Certification Exam"
	Successfully complete "Class III Combined Certification Exam"
	(See Notes 1 and 2 on Page 20)
VIII	Successfully complete "SFPR Exam"
	Successfully complete "Class IV Certification Exam"
	Successfully complete "Class II Certification Exam"
	Successfully complete "Class III Combined Certification Exam"
	(See Notes 1-4 on page 23)
	, , ,

#### CLASS I FIRE SUPPRESSION SYSTEM CERTIFICATE EXAMINATIONS

## Section 1 - Scope of work which may be performed

A Class I Fire Suppression System Certificate will allow the certificate holder to prepare technical documents, install, inspect, test and maintain Fire suppression Systems under Class II, III and IV Certificates.

#### Section 2 - Examination Requirements

## State Fire Prevention Regulations Examination (SFPR Exam)

The State Fire Prevention Regulations Exam is based on the State Fire Prevention Regulations. The purpose of this exam is to test for knowledge of the Delaware State Fire Prevention Regulations.

# Fire Suppression System Class II Certification Examination (FSS Class II Exam) (Note 1)

The Fire Suppression System Class II Certificate Exam is an exam consisting of questions from the following 37 NICET work elements. Successful completion of this exam requires passing all 37 work elements.

- 11001 PLANS, SPECIFICATIONS AND CONTRACTS
- 11002 PREPARE SIMPLE DESIGNS
- 11003 NFPA STANDARDS
- 11004 BASICS OF SPRINKLER SYSTEMS
- 11005 BASIC MATERIALS AND COMPONENTS
- 13001 CONSTRUCTION PLANS
- 13002 FIRE PROTECTION PLANS AND SYMBOLS
- 13005 BASIC OF SYSTEM LAYOUT
- 13006 CLASSIFICATIONS OF OCCUPANCIES
- 13007 WATER SUPPLY REQUIREMENTS
- 13008 SYSTEM CONNECTIONS
- 13009 SYSTEM PIPING CONFIGURATIONS, SCHEDULES AND SIZES
- 13010 REQUIREMENTS OF SPACING
- 13011 SPRINKLER LOCATION AND POSITION
- 13012 PIPE JOINING TECHNIQUES AND FITTINGS
- 13013 PIPE HANGERS AND HANGING
- 13014 WET AND DRY SYSTEMS
- 13015 HYDRAULIC CALCULATIONS OF SYSTEMS
- 13016 UNDERGROUND PIPING
- 13017 BUILDING CODES
- 13023 SPECIAL SPRINKLERS
- 13024 WATER FLOW TESTS
- 13025 FUNDAMENTALS OF HYDRAULICS
- 14002 SELECTION OF FIRE PUMPS
- 14004 PUMP FLOW TEST
- 14005 HIGH PILED STORAGE
- 14006 RACK STORAGE
- 14007 SPRINKLER SYSTEM MAINTENANCE
- 14009 STANDPIPE SYSTEMS
- 14010 FIRE PUMPS AND SYSTEMS
- 14011 STORAGE TANKS
- 14012 ALARMS AND SYSTEM SUPERVISION
- 14013 FUNDAMENTALS OF FIRE EXTINGUISHMENT
- 14016 SURVEYS FOR FIRE PROTECTION
- 15005 SHOP AND ERECTION DRAWINGS
- 15007 SYSTEM ACCEPTANCE TESTS
- 15016 HYDRAULIC DESIGN AREA

# Combination of all Fire Suppression System Class IIIa thru IIId Certification Exams

## (FSS Class IIIa thru IIId Exams)

(Note 2)

To meet the Exam Requirements for FSS Class I, the applicant must successfully complete all 32 required NICET work elements for FSS Class IIIa thru IIId. The 32 work elements required are as follows:

- 51001 SIMPLE PLANS AND SPECIFICATIONS
- 51002 NFPA STANDARDS
- 51003 SPRINKLER AND FIRE SUPPRESSION SYSTEMS
- 51005 STANDARD SYMBOLS
- 52004 LAYOUT SIMPLE DESIGNS
- 53002 HAZARD ANALYSIS
- 53003 DETECTION METHODS

```
53004 - FUNDAMENTALS OF FIRE EXTINGUISHMENT
53005 - EXTINGUISHING AGENTS
53006 - SMOKE SENSING DETECTORS
53007 - ELECTRICAL INSTALLATION STANDARDS
53010 - HEAT SENSING DETECTORS
53011 - FOAM WATER I
53012 - CARBON DIOXIDE I
54005 - FLAME DETECTORS
54006 - FIRE GAS DETECTORS
54007 - HALON 1301 I
54008 - DRY CHEMICAL I
54014 - INERGEN (IG- 541)
54015 - FM-200 (HFC-227ea)
54016 - FE-13 (HFC-23)
55001 - CONSTRUCTION PLANS
55003 - SYSTEM PIPING REQUIREMENTS
55004 - NOZZLE AND TANK LOCATION
56001 - HEAT SENSING PROTECTION SYSTEMS
56002 - SMOKE SENSING PROTECTION SYSTEMS
56003 - FLAME SENSING PROTECTION SYSTEMS
56004 - FIRE DETECTING SYSTEMS
56005 - FOAM WATER II
56006 - HALON 1301 II
56007 - CARBON DIOXIDE II
```

56008 - DRY CHEMICAL II

# Fire Suppression System Class IV Certification Examination (FSS Class IV Exam)

The Fire Suppression System Class IV Certification Exam is based on NFPA 13D.

## Section 3 – Reference Material

SFPR	Delaware State Fire Prevention Regulations
NFPA 10 -	Standard for Portable Fire Extinguishers
NFPA 11 -	Standard for Foam Extinguishing Systems
NFPA 11A -	Standard for High Expansion Foam Systems (Expansion Ratios from 100:1 to 1000:1)
NFPA 12 -	Standard on Carbon Dioxide Extinguishing Systems
NFPA 12A -	Standard on Halon 1301 Fire Extinguishing Systems
NFPA 12B -	Standard on Halon 1211 Fire Extinguishing Systems
NFPA 13 -	Standard for the Installation of Sprinkler Systems
NFPA 13D -	Sprinkler Systems in One and Two Family Dwellings and Mobile Homes
NFPA 13R -	Sprinkler Systems in Residential Occupancies Up To and Including Four Stories in Height
NFPA 14 -	Standard for the Installation of Standpipe and Hose Systems
NFPA 15 -	Standard for Water Spray Fixed Systems for Fire Protection
NFPA 16 -	Standard for the Installation of Deluge Foam-Water Sprinkler Systems and Water Spray System
NFPA 17 -	Standard for Dry Chemical Systems
NFPA 17A -	Standard on Wet Chemical Systems
NFPA 20 -	Standard for the Installation of Centrifugal Fire Pumps
NFPA 22 -	Standard for Water Tanks for Private Fire Protection
NFPA 24 -	Standard for the Installation of Fire Service Mains and Their Appurtenances
NFPA 25 -	Inspection, Testing and Maintenance of Water Based Fire Protection Systems
NFPA 70 -	National Electric Code
NFPA 72E -	Standard on Automatic Fire Detectors
NFPA 101 -	Code for Safety to Life from Fire in Buildings and Structures
NFPA 231 -	General Storage
NFPA 231C -	Rack Storage of Materials
NFPA 409 -	Aircraft Hangars

See the NICET Sprinkler Systems and Special Hazards Program Detail Manuals for additional suggested references.

Note 1 – NICET Certification to Level III in Fire Protection Engineering Technology, subfield of Automatic Sprinkler System Layout, will be considered an equivalent to the FSS Class II Exam.

Note 2 – NICET Certification to Level III in Fire Protection Engineering Technology subfield of Special Hazards System Layout, will be considered an equivalent to the FSS Class III Exams.

#### CLASS II FIRE SUPPRESSION SYSTEM CERTIFICATE EXAMINATIONS

#### Section 1 – Scope of work which may be performed

A Class II Fire Suppression System Certificate will allow the certificate holder to prepare technical documents, install, inspect, test and maintain Sprinkler and Standpipe Systems.

#### Section 2 - Examination Requirements

#### State Fire Prevention Regulations Examination (SFPR Exam)

The State Fire Prevention Regulations Exam is based on the State Fire Prevention Regulations. The purpose of this exam is to test for knowledge of the Delaware State Fire Prevention Regulations.

# Fire Suppression System Class II Certification Examination (FSS Class II Exam) (Note 1)

The Fire Suppression System Class II Certificate Exam is an exam consisting of questions from the following 37 NICET work elements. Successful completion of this exam requires passing all 37 work elements.

```
11001 - PLANS, SPECIFICATIONS AND CONTRACTS
11002 - PREPARE SIMPLE DESIGNS
11003 - NFPA STANDARDS
11004 - BASICS OF SPRINKLER SYSTEMS
11005 - BASIC MATERIALS AND COMPONENTS
13001 - CONSTRUCTION PLANS
13002 - FIRE PROTECTION PLANS AND SYMBOLS
13005 - BASIC OF SYSTEM LAYOUT
13006 - CLASSIFICATIONS OF OCCUPANCIES
13007 - WATER SUPPLY REQUIREMENTS
13008 - SYSTEM CONNECTIONS
13009 - SYSTEM PIPING CONFIGURATIONS, SCHEDULES AND SIZES
13010 - REQUIREMENTS OF SPACING
13011 - SPRINKLER LOCATION AND POSITION
13012 - PIPE JOINING TECHNIQUES AND FITTINGS
13013 - PIPE HANGERS AND HANGING
13014 - WET AN DRY SYSTEMS
13015 - HYDRAULIC CALCULATIONS OF SYSTEMS
13016 - UNDERGROUND PIPING
13017 - BUILDING CODES
13023 - SPECIAL SPRINKLERS
13024 - WATER FLOW TESTS
13025 - FUNDAMENTALS OF HYDRAULICS
14002 - SELECTION OF FIRE PUMPS
14004 - PUMP FLOW TEST
14005 - HIGH PILED STORAGE
14006 - RACK STORAGE
14007 - SPRINKLER SYSTEM MAINTENANCE
14010 - FIRE PUMPS AND SYSTEMS
14011 - STORAGE TANKS
14012 - ALARMS AND SYSTEM SUPERVISION
14013 - FUNDAMENTALS OF FIRE EXTINGUISMENT
14016 - SURVEYS FOR FIRE PROTECTION
15005 - SHOP AND ERECTION DRAWINGS
15007 - SYSTEM ACCEPTANCE TESTS
```

15016 - HYDRAULIC DESIGN AREA

# Section 3 - Reference Material

SFPR	Delaware State Fire Prevention Regulations
NFPA 10 -	Standard for Portable Fire Extinguishers
NFPA 11 -	Standard for Foam Extinguishing Systems
NFPA 11A -	Standard for High Expansion Foam Systems (Expansion Ratios from 100:1 to 1000:1)
NFPA 12 -	Standard on Carbon Dioxide Extinguishing Systems
NFPA 12A -	Standard on Halon 1301 Fire Extinguishing Systems
NFPA 12B -	Standard on Halon 1211 Fire Extinguishing Systems
NFPA 13 -	Standard for the Installation of Sprinkler Systems
NFPA 13D -	Sprinkler Systems in One and Two Family Dwellings and Mobile Homes
NFPA 13R -	Sprinkler Systems in Residential Occupancies Up To and Including Four Stories in Height
NFPA 14 -	Standard for the Installation of Standpipe and Hose Systems
NFPA 15 -	Standard for Water Spray Fixed Systems for Fire Protection

NFPA 16 - NFPA 17 - NFPA 17A - NFPA 20 - NFPA 22 - NFPA 24 - NFPA 25 - NFPA 70 - NFPA 71-	Standard for the Installation of Deluge Foam-Water Sprinkler Systems and Water Spray Systems Standard for Dry Chemical Systems Standard on Wet Chemical Systems Standard for the Installation of Centrifugal Fire Pumps Standard for Water Tanks for Private Fire Protection Standard for the Installation of Fire Service Mains and Their Appurtenances Inspection, Testing and Maintenance of Water Based Fire Protection Systems National Electric Code Standard for the Installation, Maintenance and Use of Signaling Systems for Central Station Service
NFPA 72 - NFPA 72E - NFPA 101 - NFPA 170 - NFPA 231 - NFPA 231C - NFPA 409 -	Installation, Maintenance and Use of Protective Signaling Systems Standard on Automatic Fire Detectors Code for Safety to Life from Fire in Buildings and Structures Firesafety Symbols (Formerly NFPA 12) General Storage Rack Storage of Materials Aircraft Hangers

See the NICET Sprinkler Systems Program Detail Manual for additional suggested references.

Note 1 – NICET Certification to Level III in Fire Protection Engineering Technology, subfield of Automatic Sprinkler System Layout, will be considered an equivalent to the FSS Class II Exam.

#### CLASS IIIa FIRE SUPPRESSION SYSTEM CERTIFICATE

[Engineered CO2 Fire Suppression Systems] Section 1 – Scope of work which may be performed

A Class Illa Fire suppression System Certificate will allow the certificate holder to prepare technical documents, install, inspect, test and maintain engineered carbon dioxide fire suppression systems.

## Section 2 - Examination Requirements

#### State Fire Prevention Regulations Examination (SFPR Exam)

The State Fire Prevention Regulations Exam is based on the State Fire Prevention Regulations. The purpose of this exam is to test for knowledge of the Delaware State Fire Prevention Regulations.

# Fire Suppression System Class IIIa Certification Examination (FSS Class IIIa Exam) (Note 2)

The Fire Suppression System Class IIIa Certificate Exam is an exam consisting of questions from the following 24 NICET work elements. Successful completion of this exam requires passing all 24 work elements.

51001 - SIMPLE PLANS AND SPECIFICATIONS 51002 - NFPA STANDARDS 51003 - SPRINKLER AND FIRE SUPPRESSION SYSTEMS 51005 - STANDARD SYMBOLS 52004 - LAYOUT SIMPLE DESIGNS 53002 - HAZARD ANALYSIS 53003 - DETECTION METHODS 53004 - FUNDAMENTALS OF FIRE EXTINGUISHMENT 53005 - EXTINGUISHING AGENTS 53006 - SMOKE SENSING DETECTORS 53007 - ELECTRICAL INSTALLATION STANDARDS 53010 - HEAT SENSING DETECTORS 53012 - CARBON DIOXIDE I 54005 - FLAME DETECTORS 54006 - FIRE GAS DETECTORS 55001 - CONSTRUCTION PLANS 55003 - SYSTEM PIPING REQUIREMENTS 55004 - NOZZLE AND TANK LOCATION 56001 - HEAT SENSING PROTECTION SYSTEMS 56002 - SMOKE SENSING PROTECTION SYSTEMS 56003 - FLAME SENSING PROTECTION SYSTEMS 56004 - FIRE DETECTING SYSTEMS

56007 - CARBON DIOXIDE II

# <u>Section 3 – Reference Materials</u>

SFPR	Delegação State Fire Prograntian Degulations
NFPA 10 -	Delaware State Fire Prevention Regulations
	Standard for Portable Fire Extinguishers
NFPA 11 -	Standard for Foam Extinguishing Systems
NFPA 11A -	Standard for High Expansion Foam Systems (Expansion Ratios from 100:1 to 1000:1)
NFPA 12 -	Standard on Carbon Dioxide Extinguishing Systems
NFPA 12A -	Standard on Halon 1301 Fire Extinguishing Systems
NFPA 12B -	Standard on Halon 1211 Fire Extinguishing Systems
NFPA 13 -	Standard for the Installation of Sprinkler Systems
NFPA 13D -	Sprinkler in One an Two Family Dwellings and Mobile Homes
NFPA 13R -	Sprinkler Systems in Residential Occupancies Up To and Including Four Stories in Height
NFPA 14 -	Standard for the Installation of Standpipe and Hose Systems
NFPA 15 -	Standard for Water Spray Fixed Systems for Fire Protection
NFPA 16 -	Standard for the Installation of Deluge Foam-Water Sprinkler Systems and Water Spray Systems
NFPA 17 -	Standard for Dry Chemical Systems
NFPA 17A -	Standard on Wet Chemical Extinguishing Systems
NFPA 20 -	Standard for the Installation of Centrifugal Fire Pumps
NFPA 22 -	Standard for Water Tanks for Private Fire Protection
NFPA 24 -	Standard for the Installation of Fire Service Mains and their Appurtenance
NFPA 25 -	Inspection, Testing and Maintenance of Water Based Fire Protection Systems
NFPA 70 -	National Electric Code
NFPA 71 -	Standard for the Installation, Maintenance and Use of Signaling Systems for Central Station Service
NFPA 72 -	Installation, Maintenance and Use of Protective Signaling Systems
NFPA 72E -	Standard on Automatic Fire Detectors
NFPA 101 -	Code for Safety to Life from Fire in Buildings and Structures
NFPA 170 -	Firesafety Symbols (Formerly NFPA 172)
NFPA 231 -	General Storage
NFPA 231C -	Rack Storage of Materials
NFPA 409 -	Aircraft Hangars

See the NICET Special Hazards systems Program Detail Manual for additional suggested references

Note 2 – NICET Certification to Level III in Fire Protection Engineering Technology, subfield of Special Hazards System Layout, will be considered an equivalent to the FSS Class III Exams.

#### CLASS IIIb FIRE SUPPRESSION SYSTEM CERTIFICATE

[Engineered Clean Agent Suppression Systems] Section 1 – Scope of work which may be performed

A Class IIIb Fire Suppression System Certificate will allow the certificate holder to prepare technical documents, install, inspect, test and maintain engineered Clean Agent fire suppression systems.

## Section 2 Examination Requirements

#### State Fire Prevention Regulations Examination (SFPR Exam)

The State Fire Prevention Regulations Exam is based on the State Fire Prevention Regulations. The purpose of this exam is to test for knowledge of the Delaware State Fire Prevention Regulations.

# Fire Suppression System Class IIIb Certification Examination (FSS Class IIIb Exam)

(Note 2)

The Fire Suppression System Class IIIb Certificate Exam is an exam consisting of questions from the following 26 NICET work elements. Successful completion of this exam passing all 26 work elements.

51001 - SIMPLE PLANS AND SPECIFICATIONS

51002 - NFPA STANDARDS

51003 - SPRINKLER AND FIRE SUPPRESSION SYSTEMS

51005 - STANDARD SYMBOLS

52004 - LAYOUT SIMPLE DESIGNS

53002 - HAZARD ANALYSIS

53003 - DETECTION METHODS

53004 - FUNDAMENTALS OF FIRE EXTINGUISHMENT

53005 - EXTINGUISHING AGENTS

53006 - SMOKE SENSING DETECTORS

53007 - ELECTRICAL INSTALLATION STANDARDS

53010 - HEAT SENSING DETECTORS

54005 - FLAME DETECTORS

54006 - FIRE GAS DETECTORS

54007 - HALON 1301 I

54014 - INERGEN (IG- 541)

54015 - FM-200 (HFC-227ea)

54016 - FE-13 (HFC-23)

55001 - CONSTRUCTION PLANS

55003 - SYSTEM PIPING REQUIREMENTS

55004 - NOZZLE AND TANK LOCATION

56001 - HEAT SENSING PROTECTION SYSTEMS

56002 - SMOKE SENSING PROTECTION SYSTEMS

56003 - FLAME SENSING PROTECTION SYSTEMS

56004 - FIRE DETECTING SYSTEMS

56006 - HALON 1301 II

NFPA 72E -

#### Section 3 - Reference Materials

SFPR NFPA 10 - NFPA 11 - NFPA 11A - NFPA 12 - NFPA 12A -	Delaware State Fire Prevention Regulations Standard for Portable Fire Extinguishers Standard for Foam Extinguishing Systems Standard for High Expansion Foam Systems (Expansion Ratios from 100:1 to 1000:1) Standard on Carbon Dioxide Extinguishing Systems Standard on Halon 1301 Fire Extinguishing Systems
NFPA 12B -	Standard on Halon 1211 Fire Extinguishing Systems
NFPA 13 -	Standard for the Installation of Sprinkler Systems
NFPA 13D -	Sprinkler Systems in One and Two Family Dwellings and Mobile Homes
NFPA 13R -	Sprinkler Systems in Residential Occupancies Up To and Including Four Stories in Height
NFPA 14 -	Standard for the Installation of Standpipe and Hose Systems
NFPA 15 -	Standard for Water Spray Fixed Systems for Fire Protection
NFPA 16 -	Standard for the Installation of Deluge Foam-Water Sprinkler Systems and Water Spray Systems
NFPA 17 -	Standard for Dry Chemical Systems
NFPA 17A -	Standard on Wet Chemical Systems
NFPA 20 -	Standard for the Installation of Centrifugal Fire Pumps
NFPA 22 -	Standard for Water Tanks for Private Fire Protection
NFPA 24 -	Standard for the Installation of Fire Service Mains and Their Appurtenances
NFPA 25 -	Inspection, Testing and Maintenance of Water Based Fire Protection Systems
NFPA 70 -	National Electric Code
NFPA 71 -	Standard for the Installation, Maintenance and Use of Signaling Systems for Central Station Service
NFPA 72 -	Installation, Maintenance and Use of Protective Signaling Systems

Standard on Automatic Fire Detectors

NFPA 101 -Code for Safety to Life from Fire in Buildings and Structures

Firesafety Symbols (Formerly NFPA 12) NFPA 170 -

General Storage NFPA 231 -

Rack Storage of Materials Aircraft Hangers NFPA 231C -

NFPA 409 -

See the NICET Special Hazards Systems Program Detail Manual for additional suggested

Note 2 – NICET Certification to Level III in Fire Protection Engineering Technology, subfield of Special Hazards System Layout, will be considered an equivalent to the FSS Class III Exams.

#### CLASS IIIC FIRE SUPPRESSION SYSTEM CERTIFICATE

[Engineered Foam Fire Suppression Systems] Section 1 – Scope of work which may be performed

A Class IIIc Fire Suppression System Certificate will allow the certificate holder to prepare technical documents, install, inspect, test and maintain engineered foam fire suppression systems.

## Section 2 - Examination Requirements

#### State Fire Prevention Regulations Examination (SFPR Exam)

The State Fire Prevention Regulations Exam is based on the State Fire Prevention Regulations. The purpose of this exam is to test for knowledge of the Delaware State Fire Prevention Regulations.

# Fire Suppression System Class IIIc Certificate Examination (FSS IIIc Exam)

(Note 2)

The Fire Suppression System Class IIIc Certificate Exam is an exam consisting of questions from the following 23 NICET work elements. Successful completion of this exam requires passing all 23 work elements.

51001 - SIMPLE PLANS AND SPECIFICATIONS 51002 - NFPA STANDARDS 51003 - SPRINKLER AND FIRE SUPPRESSION SYSTEMS 51005 - STANDARD SYMBOLS 52004 - LAYOUT SIMPLE DESIGNS 53002 - HAZARD ANALYSIS 53003 - DETECTION METHODS 53004 - FUNDAMENTALS OF FIRE EXTINGUISHMENT 53005 - EXTINGUISHING AGENTS 53006 - SMOKE SENSING DETECTORS 53007 - ELECTRICAL INSTALLATION STANDARDS 53010 - HEAT SENSING DETECTORS 53011 - FOAM WATER I 54005 - FLAME DETECTORS 54006 - FIRE GAS DETECTORS 55001 - CONSTRUCTION PLANS 55003 - SYSTEM PIPING REQUIREMENTS 55004 - NOZZLE AND TANK LOCATION 56001 - HEAT SENSING PROTECTION SYSTEMS 56002 - SMOKE SENSING PROTECTION SYSTEMS

56003 - FLAME SENSING PROTECTION SYSTEMS

56004 - FIRE DETECTING SYSTEMS

56005 - FOAM WATER II

#### Section 3 - Reference Materials

SFPR	Delaware State Fire Prevention Regulations
NFPA 10 -	Standard for Portable Fire Extinguishers
NFPA 11 -	Standard for Foam Extinguishing Systems
NFPA 11A -	Standard for High Expansion Foam Systems (Expansion Ratios from 100:1 to 1000:1)
NFPA 12 -	Standard on Carbon Dioxide Extinguishing Systems
NFPA 12A -	Standard on Halon 1301 Fire Extinguishing Systems
NFPA 12B -	Standard on Halon 1211 Fire Extinguishing Systems
NFPA 13 -	Standard for the Installation of Sprinkler Systems
NFPA 13D -	Sprinkler Systems in One and Two Family Dwellings and Mobile Homes
NFPA 13R -	Sprinkler Systems in Residential Occupancies Up To and Including Four Stories in Height
NFPA 14 -	Standard for the Installation of Standpipe and Hose Systems
NFPA 15 -	Standard for Water Spray Fixed Systems for Fire Protection
NFPA 16 -	Standard for the Installation of Deluge Foam-Water Sprinkler Systems and Water Spray Systems
NFPA 17 -	Standard for Dry Chemical Systems
NFPA 17A -	Standard on Wet Chemical Systems
NFPA 20 -	Standard for the Installation of Centrifugal Fire Pumps
NFPA 22 -	Standard for Water Tanks for Private Fire Protection
NFPA 24 -	Standard for the Installation of Fire Service Mains and Their Appurtenances
NFPA 25 -	Inspection, Testing and Maintenance of Water Based Fire Protection Systems
NFPA 70 -	National Electric Code
NFPA 71 -	Standard for the Installation, Maintenance and Use of Signaling Systems for Central Station Service
NFPA 72 -	Installation, Maintenance and Use of Protective Signaling Systems
NFPA 72E -	Standard on Automatic Fire Detectors
NFPA 101 -	Code for Safety to Life from Fire in Buildings and Structures
NFPA 170 -	Firesafety Symbols (Formerly NFPA 12)
NFPA 231 -	General Storage
NFPA 231C -	Rack Storage of Materials
NFPA 409 -	Aircraft Hangers

See the NICET Special Hazards Systems Program Detail Manual for additional suggested references.

Note 2 – NICET Certification to Level III in Fire Protection Engineering Technology, sub field of Special Hazards System Layout, will be considered an equivalent to the FSS Class III Exams.

#### CLASS IIId FIRE SUPPRESSION SYSTEM CERTIFICATE

#### [Engineered Dry Chemical]

#### Section 1 – Scope of work which may be performed

A Class IIId Fire Suppression System Certificate will allow the certificate holder to prepare technical documents, install, inspect, test and maintain engineered dry chemical fire suppression systems

## Section 2 - Examination Requirements

#### State Fire Prevention Regulations Examination (SFPR Exam)

The State Fire Prevention Regulations Exam is based on the State Fire Prevention Regulations. The purpose of this exam is to test for knowledge of the Delaware State Fire Prevention Regulations.

# Fire Suppression System Class IIId Certification Examination (FSS Class IIIc Exam) (Note 2)

The Fire Suppression System Class IIId Certificate Exam is an exam consisting of questions from the following 23 NICET work elements. Successful completion of this exam requires passing all 23 work elements.

51001 - SIMPLE PLANS AND SPECIFICATIONS

51002 - NFPA STANDARDS

51003 - SPRINKLER AND FIRE SUPPRESSION SYSTEMS

51005 - STANDARD SYMBOLS

52004 - LAYOUT SIMPLE DESIGNS

53002 - HAZARD ANALYSIS

53003 - DETECTION METHODS

53004 - FUNDAMENTALS OF FIRE EXTINGUISHMENT

53005 - EXTINGUISHING AGENTS

53006 - SMOKE SENSING DETECTORS

53007 - ELECTRICAL INSTALLATION STANDARDS

53010 - HEAT SENSING DETECTORS

54005 - FLAME DETECTORS

54006 - FIRE GAS DETECTORS

54008 - DRY CHEMICAL I

55001 - CONSTRUCTION PLANS

55003 - SYSTEM PIPING REQUIREMENTS

55004 - NOZZLE AND TANK LOCATION

56001 - HEAT SENSING PROTECTION SYSTEMS

56002 - SMOKE SENSING PROTECTION SYSTEMS

56003 – FLAME SENSING PROTECTION SYSTEMS 56004 – FIRE DETECTING SYSTEMS

56008 - DRY CHEMICAL II

#### Section 3 - Reference Materials

SFPR	Delaware State Fire Prevention Regulations
NFPA 10 -	Standard for Portable Fire Extinguishers
NFPA 11 -	Standard for Foam Extinguishing Systems
NFPA 11A -	Standard for High Expansion Foam Systems (Expansion Ratios from 100:1 to 1000:1)
NFPA 12 -	Standard on Carbon Dioxide Extinguishing Systems
NFPA 12A -	Standard on Halon 1301 Fire Extinguishing Systems
NFPA 12B -	Standard on Halon 1211 Fire Extinguishing Systems
NFPA 13 -	Standard for the Installation of Sprinkler Systems
NFPA 13D -	Sprinkler Systems in One and Two Family Dwellings and Mobile Homes
NFPA 13R -	Sprinkler Systems in Residential Occupancies Up To and Including Four Stories in Height
NFPA 14 -	Standard for the Installation of Standpipe and Hose Systems
NFPA 15 -	Standard for Water Spray Fixed Systems for Fire Protection
NFPA 16 -	Standard for the Installation of Deluge Foam-Water Sprinkler Systems and Water Spray Systems
NFPA 17 -	Standard for Dry Chemical Systems
NFPA 17A -	Standard on Wet Chemical Systems
NFPA 20 -	Standard for the Installation of Centrifugal Fire Pumps
NFPA 22 -	Standard for Water Tanks for Private Fire Protection
NFPA 24 -	Standard for the Installation of Fire Service Mains and Their Appurtenances
NFPA 25 -	Inspection, Testing and Maintenance of Water Based Fire Protection Systems
NFPA 70 -	National Electric Code
NFPA 71 -	Standard for the Installation, Maintenance and Use of Signaling Systems for Central Station Service
NFPA 72 -	Installation, Maintenance and Use of Protective Signaling Systems
NFPA 72E -	Standard on Automatic Fire Detectors
NFPA 101 -	Code for Safety to Life from Fire in Buildings and Structures
NFPA 170 -	Firesafety Symbols (Formerly NFPA 12)
NFPA 231 -	General Storage
NFPA 231C -	Rack Storage of Materials
NFPA 409 -	Aircraft Hangers

See the NICET Special Hazards Systems Program Detail Manual for additional suggested

Note 2 – NICET Certification to Level III in Fire Protection Engineering Technology, subfield of Special Hazards System Layout, will be considered an equivalent to the FSS Class III Exams.

#### CLASS IV FIRE SUPPRESSION SYSTEM CERTIFICATE

#### Section 1 – Scope of work which may be performed

A Class IV Fire Suppression System Certificate will allow the certificate holder to prepare technical documents, install, inspect, test and maintain residential fire suppression systems (typical of NFPA 13D systems).

#### Section 2 – Examination Requirements (SFPR Exam)

#### State Fire Prevention Regulations Examination (SFPR Exam)

The State Fire Prevention Regulations Exam is based on the State Fire Prevention Regulations. The purpose of this exam is to test for knowledge of the Delaware State Fire Prevention Regulations.

## Fire Suppression System Class IV Certification Examination (FSS Class IV Exam)

The Fire Suppression System Class IV Certification Exam is based on NFPA 13D.

#### Section 3 - Reference Material

SFPR State Fire Prevention Regulations

NFPA 13D - Installation of Sprinkler Systems in One- and Two-Family Dwellings and Mobile Homes

#### CLASS V FIRE SUPPRESSION SYSTEM CERTIFICATE

#### Section 1 – Scope of work which may be performed

A Class V Fire Suppression System Certificate will allow the certificate holder to perform inspection, testing and maintenance service of pre-engineered fire protection systems.

#### Section 2 - Examination Requirements

# State Fire Prevention Regulations Examination (SFPR Exam)

The State Fire Prevention Regulations Exam is based on the State Fire Prevention Regulations. The purpose of this exam is to test for knowledge of the Delaware State Fire Prevention Regulations.

# Fire Suppression System Class V Certification Examination (FSS Class V Exam)

A manufacturers certification in specific systems is to be considered equivalent to a Class V Certificate in the specific category.

#### CLASS VI FIRE SUPPRESSION SYSTEM CERTIFICATE

#### Section 1 – Scope of work which may be performed

A Class VI Fire Suppression System Certificate will allow the certificate holder to perform inspection, testing and maintenance service of Fire Suppression Systems under Class II, III, IV Certificates.

#### Section 2 – Examination Requirements

#### State Fire Prevention Regulations Examination (SFPR Exam)

The State Fire Prevention Regulations Exam is based on the State Fire Prevention Regulations. The purpose of this exam is to test for knowledge of the Delaware State Fire Prevention Regulations.

# Fire Suppression System Class II Certification Examination (FSS Class II Exam)

(Note 1)

The Fire Suppression System Class II Certificate Exam is an exam consisting of questions from the following 37 NICET work elements. Successful completion of this exam requires passing all 37 work elements.

```
11001 - PLANS, SPECIFICATIONS AND CONTRACTS
11002 - PREPARE SIMPLE DESIGNS
11003 - NFPA STANDARDS
11004 - BASICS OF SPRINKLER SYSTEMS
11005 - BASIC MATERIALS AND COMPONENTS
13001 - CONSTRUCTION PLANS
13002 - FIRE PROTECTION PLANS AND SYMBOLS
13005 - BASIC MATERIALS AND COMPONENTS
13006 - CLASSIFICATIONS OF OCCUPANCIES
13007 - WATER SUPPLY REQUIREMENTS
13008 - SYSTEM CONNECTIONS
13009 - SYSTEM PIPING CONFIGURATIONS, SCHEDULES AND SIZES
13010 - REQUIREMENTS OF SPACING
13011 - SPRINKLER LOCATION AND POSITION
13012 - PIPE JOINING TECHNIQUES AND FITTINGS
13013 - PIPE HANGARS AND HANGING
13014 - WET AND DRY SYSTEMS
13015 - HYDRAULIC CALCULATIONS OF SYSTEMS
13016 - UNDERGROUND PIPING
13017 - BUILDING CODES
13023 - SPECIAL SPRINKLERS
13024 - WATER FLOW TESTS
13025 - FUNDAMENTALS OF HYDRAULICS
14002 - SELECTION OF FIRE PUMPS
14004 - PUMP FLOW TEST
14005 - HIGH PILED STORAGE
14006 - RACK STORAGE
14007 - SPRINKLER SYSTEM MAINTENANCE
14009 - STANDPIPE SYSTEMS
14010 - FIRE PUMPS AND SYSTEMS
14011 – STORAGE TANKS
14012 - ALARMS AND SYSTEM SUPERVISION
14013 - FUNDAMENTALS OF FIRE EXTINGUISHMENT
14016 - SURVEYS FOR FIRE PROTECTION
15005 - SHOP AND ERECTION DRAWINGS
```

# Combination of all Fire Suppression System Class Illa thru Illd Certification Exams (FSS Class Illa thru Illd Exams)

(Note 2)

To meet the Exam Requirements for FSS Class I, the applicant must successfully complete all 32 required NICET work elements for FSS Class IIIa thru IIId. The 32 work elements required are as follows:

```
51001 – SIMPLE PLANS AND SPECIFICATIONS
51002 – NFPA STANDARDS
51003 – SPRINKLER AND FIRE SUPPRESSION SYSTEMS
51005 – STANDARD SYMBOLS
52004 – LAYOUT SIMPLE DESIGNS
53002 – HAZARD ANALYSIS
53003 – DETECTION METHODS
53004 – FUNDAMENTALS OF FIRE EXTINGUISHMENT
53005 – EXTINGUISHING AGENTS
```

15007 - SYSTEM ACCEPTANCE TESTS 15016 - HYDRAULIC DESIGN AREA

```
53006 - SMOKE SENSING DETECTORS
53007 - ELECTRICAL INSTALLATION STANDARDS
53010 - HEAT SENSING DETECTORS
53011 - FOAM WATER I
53012 - CARBON DIOXIDE I
54005 - FLAME DETECTORS
54006 - FIRE GAS DETECTORS
54007 - HALON 1301 I
54008 - DRY CHEMICAL I
54014 - INERGEN (IG- 541)
54015 - FM-200 (HFC-227ea)
54016 - FE-13 (HFC-23)
55001 - CONSTRUCTION PLANS
55003 - SYSTEM PIPING REQUIREMENTS
55004 - NOZZLE AND TANK LOCATION
56001 - HEAT SENSING PROTECTION SYSTEMS
56002 - SMOKE SENSING PROTECTION SYSTEMS
56003 - FLAME SENSING PROTECTION SYSTEMS
56004 - FIRE DETECTING SYSTEMS
```

56005 - FOAM WATER II 56006 - HALON 1301 II 56007 - CARBON DIOXIDE II 56008 - DRY CHEMICAL II

## Fire Suppression System Class IV Certification Examination (FSS Class IV Exam)

The Fire Suppression System Class IV Certification Exam is based on NFPA 13D.

## Section 3 - Reference Material

SFPR	Delaware State Fire Prevention Regulations
NFPA 10 -	Standard for Portable Fire Extinguishers
NFPA 11 -	Standard for Foam Extinguishing Systems
NFPA 11A -	Standard for High Expansion Foam Systems (Expansion Ratios from 100:1 to 1000:1)
NFPA 12 -	Standard on Carbon Dioxide Extinguishing Systems
NFPA 12A -	Standard on Halon 1301 Fire Extinguishing Systems
NFPA 12B -	Standard on Halon 1211 Fire Extinguishing Systems
NFPA 13 -	Standard for the Installation of Sprinkler Systems
NFPA 13D -	Sprinkler Systems in One and Two Family Dwellings and Mobile Homes
NFPA 13R -	Sprinkler Systems in Residential Occupancies Up To and Including Four Stories in Height
NFPA 14 -	Standard for the Installation of Standpipe and Hose Systems
NFPA 15 -	Standard for Water Spray Fixed Systems for Fire Protection
NFPA 16 -	Standard for the Installation of Deluge Foam-Water Sprinkler Systems and Water Spray System
NFPA 17 -	Standard for Dry Chemical Systems
NFPA 17A -	Standard on Wet Chemical Systems
NFPA 20 -	Standard for the Installation of Centrifugal Fire Pumps
NFPA 22 -	Standard for Water Tanks for Private Fire Protection
NFPA 24 -	Standard for the Installation of Fire Service Mains and Their Appurtenances
NFPA 25 -	Inspection, Testing and Maintenance of Water Based Fire Protection Systems
NFPA 70 -	National Electric Code
NFPA 72E -	Standard on Automatic Fire Detectors
NFPA 101 -	Code for Safety to Life from Fire in Buildings and Structures
NFPA 231 -	General Storage
NFPA 231C -	Rack Storage of Materials
NFPA 409 -	Aircraft Hangars

See the NICET Sprinkler Systems and Special Hazards Program Detail Manuals for additional suggested references.

Note 1 - NICET Certification to Level III in Fire Protection Engineering Technology, subfield of Automatic Sprinkler System Layout, will be considered an equivalent to the FSS Class II Exam.

Note 2 - NICET Certification to Level III in Fire Protection Engineering Technology subfield of Special Hazards System Layout, will be considered an equivalent to the FSS Class III Exams.

#### CLASS VIII FIRE SUPPRESSION SYSTEM CERTIFICATE (RESERVED FOR IN-HOUSE LICENSEE'S)

#### Section 1 – Scope of work which may be performed

A Class VIII Fire Suppression System Certificate will allow the certificate holder to perform inspection, testing and maintenance service of wholly owned or proprietary fire suppression systems.

## Section 2 - Examination Requirements

#### State Fire Prevention Regulations Examination (SFPR Exam)

The State Fire Prevention Regulations Exam is based on the State Fire Prevention Regulations. The purpose of this exam is to test for knowledge of the Delaware State Fire Prevention Regulations.

# Fire Suppression System Class II Certification Examination (FSS Class II Exam)

(Note 1)

The Fire Suppression System Class II Certification Exam is an exam consisting of questions from the following 37 NICET work elements. Successful completion of this exam requires passing all 37 work elements.

- 11001 PLANS, SPECIFICATIONS AND CONTRACTS 11002 - PREPARE SIMPLE DESIGNS 11003 - NFPA STANDARDS 11004 - BASICS OF SPRINKLER SYSTEMS 11005 - BASIC MATERIALS AND COMPONENTS 13001 - CONSTRUCTION PLANS 13002 - FIRE PROTECTION PLANS AND SYMBOLS 13005 - BASIC OF SYSTEM LAYOUT
- 13006 CLASSIFICATIONS OF OCCUPANCIES
- 13007 WATER SUPPLY REQUIREMENTS
- 13008 SYSTEM CONNECTIONS
- 13009 SYSTEM PIPING CONFIGURATIONS, SCHEDULES AND SIZES
- 13010 REQUIREMENTS OF SPACING
- 13011 SPRINKLER LOCATION AND POSITION
- 13012 PIPE JOINING TECHNIQUES AND FITTINGS
- 13013 PIPE HANGERS AND HANGING
- 13014 WET AND DRY SYSTEMS
- 13015 HYDRAULIC CALCULATIONS OF SYSTEM
- 13016 UNDERGROUND PIPING
- 13017 BUILDING CODES
- 13023 SPECIAL SPRINKLERS
- 13024 WATER FLOW TESTS
- 13025 FUNDAMENTALS OF HYDRAULICS
- 14002 SELECTION OF FIRE PUMPS
- 14004 PUMP FLOW TEST
- 14005 HIGH PILED STORAGE
- 14006 RACK STORAGE
- 14007 SPRINKLER SYSTEM MAINTENANCE
- 14009 STANDPIPE SYSTEMS
- 14010 FIRE PUMPS AND SYSTEMS
- 14011 STORAGE TANKS
- 14012 ALARMS AND SYSTEM SUPERVISION
- 14013 FUNDAMENTALS OF FIRE EXTINGUISHMENT
- 14016 SURVEYS FOR FIRE PROTECTION
- 15005 SHOP AND ERECTION DRAWINGS
- 15007 SYSTEM ACCEPTANCE TESTS
- 15016 HYDRAULIC DESIGN AREA

# Combination of all Fire Suppression System Class Illa thru Illd Certification Exams

(FSS Class IIIa thru IIId Exams)

(Notes 2 and 3)

To meet the Exam Requirements for FSS Class I, the applicant must successfully complete all 32 required NICET work elements for FSS Class IIIa thru IIId. The 32 work elements required are as follows:

- 51001 SIMPLE PLANS AND SPECIFICATIONS
- 51002 NFPA STANDARDS
- 51003 SPRINKLER AND FIRE SUPPRESSION SYSTEMS
- 51005 STANDARD SYMBOLS
- 52004 LAYOUT SIMPLE DESIGNS
- 53002 HAZARD ANALYSIS
- 53003 DETECTION METHODS
- 53004 FUNDAMENTALS OF FIRE EXTINGUISHMENT
- 53005 EXTINGUISHING AGENTS

```
53006 – SMOKE SENSING DETECTORS
53007 – ELECTRICAL INSTALLATION STANDARDS
53010 – HEAT SENSING DETECTORS
```

53010 – HEAT SENSING DETECTOR 53011 – FOAM WATER I 53012 – CARBON DIOXIDE I

54005 - FLAME DETECTORS

54006 – FIRE GAS DETECTORS

54007 - HALON 1301 I 54008 - DRY CHEMICAL I 54014 - INERGEN (IG- 541) 54015 - FM-200 (HFC-227ea) 54016 - FE-13 (HFC-23)

55001 - CONSTRUCTION PLANS

55003 – SYSTEM PIPING REQUIREMENTS 55004 – NOZZLE AND TANK LOCATION

56001 – HEAT SENSING PROTECTION SYSTEMS 56002 – SMOKE SENSING PROTECTION SYSTEMS 56003 – FLAME SENSING PROTECTION SYSTEMS

56004 - FIRE DETECTING SYSTEMS

56005 – FOAM WATER II 56006 – HALON 1301 II 56007 – CARBON DIOXIDE II 56008 – DRY CHEMICAL II

# Fire Suppression System Class IV Certification Examination (FSS Class IV Exam) (Note 4)

The Fire Suppression System Class IV Certification Exam is based on NFPA 13D.

#### Section 3 - Reference Material

SFPR	Delaware State Fire Prevention Regulations
NFPA 10 -	Standard for Portable Fire Extinguishers
NFPA 11 -	Standard for Foam Extinguishing Systems
NFPA 11A -	Standard for High Expansion Foam Systems (Expansion Rations from 100:1 to 1000:1)
NFPA 12 -	Standard on Carbon Dioxide Extinguishing Systems
NFPA 12A -	Standard on Halon 1301 Fire Extinguishing Systems
NFPA 12B -	Standard on Halon 1211 Fire Extinguishing Systems
NFPA 13 -	Standard for the Installation of Sprinkler Systems
NFPA 13D -	Sprinkler Systems in One and Two Family Dwellings and Mobile Homes
NFPA 13R -	Sprinkler Systems in Residential Occupancies Up To and Including Four Stories in Height
NFPA 14 -	Standard for the Installation of Standpipe and Hose Systems
NFPA 15 -	Standard for Water Spray Fixed Systems for Fire Protection
NFPA 16 -	Standard for the Installation of Deluge Foam-Water Sprinkler Systems and Water Spray Systems
NFPA 17 -	Standard for Dry Chemical Systems
NFPA 17A -	Standard on Wet Chemical Systems
NFPA 20 -	Standard for the Installation of Centrifugal Fire Pumps
NFPA 22 -	Standard for Water Tanks for Private Fire Protection
NFPA 24 -	Standard for the Installation of Fire Service Mains and Their Appurtenances
NFPA 25 -	Inspection, Testing and Maintenance of Water Based Fire Protection Systems
NFPA 70 -	National Electric Code
NFPA 71 -	Standard for the Installation, Maintenance and Use of Signaling Systems for Central Station
	Service
NFPA 72 -	Installation, Maintenance and Use of Protective Signaling Systems
NFPA 72E -	Standard on Automatic Fire Detectors
NFPA 101 -	Code for Safety to Life from Fire in Buildings and Structures
NFPA 170 -	Firesafety Symbols (Formerly NFPA 12)
NFPA 231 -	General Storage
NFPA 231C -	Rack Storage of Materials
NFPA 409 -	Aircraft Hangers

See the NICET Sprinkler Systems and Special Hazards Program Detail Manuals for additional suggested references.

Note 1 – NICET Certification to Level III in Fire Protection Engineering Technology, Subfield of Automatic Sprinkler System Layout, will be considered an equivalent to the FSS Class II Exam.

Note 2 – NICET Certification to Level III in Fire Protection Engineering Technology, subfield of Special Hazards System Layout, will be considered an equivalent to the FSS Class III Exams.

Note 3 – Class III Certification will not be required for those In-House Licensee's that are not inspecting, testing or maintaining special hazards systems.

Note 4 – Class IV Certification will not be required for those In-House Licensee's that are not inspecting, testing or maintaining fire suppression systems in one and two family dwellings.

# SELECTED GENERAL REFERENCES (Provided by NICET)

Annual Book of ASTM Standards. American Society for Testing and Materials. Philadelphia, Pennsylvania.

Architects' and Engineers' Guide to Automatic Sprinklers in Building Codes. National Fire Sprinkler Association. Patterson, New York.

Bouchard, John K. Automatic Sprinkler Systems Handbook. National Fire Protection Association. Quincy, Massachusetts.

Bryan, John, L. Automatic Sprinklers & Standpipe Systems National Fire Protection Association. Quincy, Massachusetts.

Bryan, John, L. Fire Suppression and Detection Systems. National Fire Protection Association. Quincy, Massachusetts.

Casey, James, F. <u>Fire Suppression and Detection Systems.</u> National Fire Protection Association, Batterymarch Park, Quincy, MA 02169, 1-800-344-3555.

Clough, Richard H. Construction Contracting John Wiley & Sons, Inc. New York, NY

Dunham, Clarence W. and Young, Robert D. Contracts, Specifications and Law for Engineers, McGraw-Hill, New York, NY

<u>Electrical Construction Materials Directory,</u> Underwriters Laboratories, Inc. 333 Pfingston Rd., Northbrook, IL 60062, 312-272-8800

Fire Protection Equipment Directory, Underwriters Laboratories, Inc. Northbrook, IL

Fire Protection Handbook National Fire Protection Association, Batterymarch Park, Quincy, MA 02169, 1-800-344-3555.

Fire Protection Through Modern Building Codes, American Iron and Steel Institute. Washington, DC

Guide for Sprinkler Plan Review, National Fire Sprinkler Association, Inc. Patterson, New York.

Handbook of Industrial Loss Prevention, Factory Mutual Engineering Corporation. McGraw-Hill. New York, NY.

Hayden, Jack, J. and Kirby, Tim. <u>Project Manual Development Section Guide – Automatic Sprinkler Systems</u>, National Fire Sprinkler Association, Patterson, New York.

International Fire Service Training Association Manuals #401, "Fundamental Principles of Mathematics Applied to the Fire Service." Stillwater, Oklahoma.

International Fire Service Training Association Manuals #402, "Fundamental Principles of Science Applied to the Fire Service." Stillwater, Oklahoma.

NFPA Inspection Manual, National Fire Protection Association, Batterymarch Park, Quincy, MA 02169, 1-800-344-3555.

NOTE 1: THIS LISTING IS NOT INTENDED TO BE COMPLETE OR REPRESENTATIVE.

NOTE 2: NFPA Selected References of NICET for editions can be found on NICET Website @ http://www.nicet.org/fireprotectionstandards.pdf

Doc. Number: 75-01-99-03-02